Assignment name : stack

Expected files : stack.c

Allowed functions: malloc free

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Implement a stack data structure in C, using the following structures in your

code:

struct s\_node {

void \*content;

struct s\_node \*next;

};

struct s\_stack {

struct s\_node \*top;

};

A stack uses LIFO (last-in fist-out) ordering :

the most recent item added to the stack is the first item to be removed.

Implement 5 functions for the following stack operations :

- init() : Initialize the stack.

The top pointer is set to NULL.

- pop(stack) : Remove the top item from the stack and return it.

If the stack is empty, the function returns NULL.

- push(stack, item) : Add an item to the top of the stack.

- peek(stack) : Return the top of the stack.

If the stack is empty, the function returns NULL.

- isEmpty(stack) : Return 1 if the stack is empty, 0 otherwise.

These functions must be declared as follows:

struct s\_stack \*init(void);

void \*pop(struct s\_stack \*stack);

void push(struct s\_stack \*stack, void \*content);

void \*peek(struct s\_stack \*stack);

int isEmpty(struct s\_stack \*stack);